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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,087	07/27/2001	Robert J. von Gutfeld	YOR919980442US2	9148
23334	7590	06/08/2004	EXAMINER	
FLEIT, KAIN, GIBBONS, GUTMAN, BONGINI & BIANCO P.L. ONE BOCA COMMERCE CENTER 551 NORTHWEST 77TH STREET, SUITE 111 BOCA RATON, FL 33487			LANDAU, MATTHEW C	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/917,087

Applicant(s)

GUTFELD ET AL.

Examiner

Matthew Landau

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-- Th MAILING DATE of this communication app ars on the cover sh et with th correspondenc address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-8, 12, 14 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4 and 23 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 12, 14, and 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

The drawings were received on March 22, 2004. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 5-8, 12, 14, and 17-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In regards to claims 1 and 5, the application as originally filed does not support the limitations “with a pulse duration greater than 21 ns”, “with a pulse duration less than 19 ns”, and “with a pulse duration less than 1 ns”. While the specification states the pulsed laser can have pulse widths “on the order of 10’s of nanoseconds” and that the range “can vary from femto-second to continuous wave” (page 5, lines 28 - page 6, line 6), these statements are not sufficient to support the specific ranges now claimed. The ranges of claim 1 exclude a pulse laser with a pulse duration of 20ns; however, the specification does not support such an exclusion. Therefore, the aforementioned limitations constitute new matter.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inou.

In regards to claim 1, Figures 1(b)-6 disclose a method for affixing two substrates using a non-epoxy glue sealant containing photoinitiators, the method comprising the steps of: applying a non-epoxy glue sealant 8 (column 5, lines 58-61) along an outer periphery of a first substrate 5; placing a second substrate 4 onto the first substrate containing the non-epoxy glue sealant; and irradiating the glue sealant with laser beam radiation 12 to polymerize the sealant (column 6, lines 27-30) by directing light onto the first substrate that is at least partially transparent to the laser beam. The difference between Inou and the claimed invention is the pulsed laser having a pulse duration less than 19 ns. Inou discloses the pulsed laser has a pulse duration up to 20ns (col. 6, line 42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Inou by selecting a pulse duration less than 19 ns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The ordinary artisan would have been motivated to modify Inou in the manner described above for the purpose of decreasing the processing time.

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In regards to claim 2, Inou discloses the step of irradiating the glue sealant 8 includes irradiating the glue sealant with laser beam radiation to polymerize the sealant by activating the photoinitiators (column 6, lines 27-30). It is inherent that a sealant which undergoes photopolymerization when exposed laser radiation comprises at least some type of photoinitiator, and that this photoinitiator is activated when exposed to the radiation.

In regards to claim 3, Figure 1b of Inou discloses the step of irradiating the glue sealant 8 includes irradiating the glue sealant with laser beam radiation 12 that is incident onto the first substrate 5, so that the laser beam radiation subtends an angle substantially normal to the first substrate receiving the laser beam irradiation, the beam irradiation passing through the first or the second substrate onto the non-epoxy glue sealant.

In regards to claim 5, Inou discloses the step of irradiating the glue sealant 8 includes irradiating the glue sealant with laser beam irradiation from a pulsed laser (column 6, lines 40-43). The difference between Inou and the claimed invention is the pulsed laser having a pulse duration less than 1 ns. Inou discloses the pulsed laser has a pulse duration up to 20ns (col. 6, line 42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Inou by selecting a pulse duration less than 19 ns, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. The ordinary artisan would have been motivated to modify Inou in the manner described above for the purpose of decreasing the processing time.

In regards to claim 7, Inou discloses the step of irradiating the glue sealant includes irradiating the glue sealant with laser beam irradiation from a pulsed laser with a wavelength of 351nm (column 6, line 11), which is within the claimed range.

Claims 12, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inou in view of Ishihara et al. (US Pat. 5,263,888, hereinafter Ishihara).

In regards to claim 12, Figures 1(b)-6 of Inou disclose the first substrate 5 and the second substrate 4 form a LCD panel and the irradiating of the non-epoxy glue sealant with the laser beam 12 includes providing a UV dosage into the non-epoxy glue sealant within the LCD panel of  $0.06 \text{ J/cm}^2$  (column 6, lines 10-12). The difference between Inou and the claimed invention is the LCD panel assembled according to an ODF (One Drop Fill) method. Figure 2 Ishihara disclose an LCD panel assembled according to an ODF method. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Inou by using the ODF method of Ishihara for the purpose selecting a method capable of quickly filling the cavity with the desired amount of liquid crystal.

In regards to claim 17, it is inherent in the method of Inou that the step of irradiating the non-epoxy glue sealant with a laser includes irradiating with a laser to expose photo initiators in the non-epoxy glue sealant. Figure 1(b) of Inou discloses the laser is irradiated on the backside of the LCD panel, wherein the backside of the panel contains no blocking images.

In regards to claim 21, Inou discloses irradiating with laser at a wavelength of 351 nm, which is within the claimed range.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inou in view of Ishihara as applied to claim 12 above, and further in view of Tsubota et al. (US Pat. 5,677,749, hereinafter Tsubota).

A further difference between Inou and the claimed invention is using an epoxy-acrylate glue sealant. Tsubota discloses using an epoxy-acrylate sealant in a method of making an LCD panel (column 8, lines 8-14). In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to further modify the invention of Inou by using the epoxy-acrylate sealant of Tsubota for the purpose of selecting a material with good adhesive properties that is well known in the art and readily available.

*Allowable Subject Matter*

Claims 6, 8, 14, 18, 20, and 22 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

In regards to claims 6, 8, 20, and 22, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of claim limitations including irradiating the glue sealant with laser beam irradiation from a continuous (CW) laser.

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In regards to claim 14, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of claim limitations including irradiating with a laser at an impingement angle off of normal to the LCD panel.

In regards to claim 18, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of claim limitations including irradiating with a Nd:YLF frequency tripled pulsed laser.

Claims 4 and 23 are allowed.

The following is an examiner's statement of reasons for allowance:

In regards to claim 4, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of claim limitations including the laser beam subtends an angle at non-normal incidence with respect to the first or second substrate receiving the laser beam radiation.

In regards to claim 23, the prior art of record, either singularly or in combination, does not disclose or suggest the combination of claim limitations including wherein the step of irradiating the non-epoxy glue sealant with a laser includes irradiating with at least one of a laser controlled servo to trace out the pattern of the non-epoxy glue sealant to deliver not less than  $0.02 \text{ J/cm}^2$  to non-epoxy glue sealant and a laser providing a beam which is directed by scanning mirrors to deliver not less than  $0.02 \text{ J/cm}^2$  by directing the laser beam to trace out the pattern of the non-epoxy glue sealant.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue



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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (571) 272-1731.

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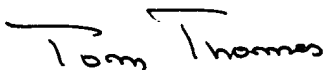
The examiner can normally be reached from 8:30 AM - 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Matthew C. Landau

Examiner

June 3, 2004

  
TOM THOMAS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800